

# Break-Even Analysis



# Summary of Presentation

- Data
- Approach/Assumptions
- Vessel categories and DAS requirements
- Limitations

# Data

- Costs primarily from surveys
  - Variable costs per day: fuel, oil, ice, food/water, bait, offloading, consignment, supplies, and misc trip expenses
  - Annual overhead costs: association fees, permits, haul out, insurance, mooring, office expenses, professional fees, business taxes, vehicle, interest, repair/maint, and misc overhead expenses
- Revenues from all species landed on a trip which used DAS are from dealer (prices) and logbook (quantities) data

# Approach/Assumptions

- Calculated average annual break-even (BE) number of days by gear and vessel size categories
- $BE = \text{annual fixed costs} / \text{net revenue per day}$
- BE DAS calculated in two stages
  - Stage 1: DAS needed to cover operating and annual costs before paying the crew
  - Stage 2: DAS needed to pay crew at various levels of pay
- Reason: In response to declining revenues, vessel owners often change crew share formula or take fewer crew

## Approach/Assumptions - continued

- Only considered returns from using a groundfish DAS. Returns from engaging in other fisheries were not considered.
- Additional days required to pay off debt are not calculated

# Daily Returns, Fixed Costs, and Stage 1 DAS

Vessel Category	Daily Return (before crew payments)	Annual Fixed Costs	Stage 1 Annual DAS Requirements
Long-line < 40'	\$1,177	\$26,630	23
Long-line >= 40'	\$1,350	\$34,018	25
Trawl < 50'	\$1,139	\$30,073	26
Trawl 50' to 70'	\$1,832	\$66,937	37
Trawl >= 70'	\$2,683	\$135,092	50
Gillnet < 40'	\$1,931	\$26,630	14
Gillnet >= 40'	\$2,191	\$34,018	16

# Additional DAS Needed to Compensate Crew

	Average Crew Size Including Captain	Additional DAS Needed for Crew Compensation			Total DAS Requirements		
		\$25k	\$35k	\$50k	\$25k	\$35k	\$50k
Long-line vessels < 40 feet	2	42	59	85	65	82	108
Long-line vessels $\geq$ 40 feet	3	56	78	111	81	103	136
Trawl vessels < 50 feet	2	44	61	88	70	87	114
Trawl vessels 50 to 70 feet	3	41	57	82	78	94	119
Trawl vessels $\geq$ 70 feet	5	47	65	93	97	115	143
Gillnet vessels < 40 feet	3	39	54	78	53	68	92
Gillnet vessels $\geq$ 40 feet	3	34	48	68	50	64	84

# Limitations

- Not a vessel-by-vessel analysis so doesn't account for variation in costs or revenues by season, area, captain's skills, etc.
  - For example: revenue in Gulf of Maine is lower because of cod trip limits and rolling closures and so DAS requirements are higher for that region.